

1        IN THE CLAIMS

2        (Clean version of the amended claims)

3           Please amend the claims as follows:

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5        --23. An improved time of flight mass spectrometer comprising:

6           a multideflector for deflecting ions from an ion path  
7           consisting of more than two bipolar deflection plates each  
8           comprising a pair of metal plates separated from one another by  
9           an insulator, said bipolar deflection plates being arranged  
10          across said ion path in such a way that, during a given passage  
11          through said multideflector, each of said ions must pass between  
12          two and only two adjacent bipolar deflection plates; and

13           a detector for detecting said ions;

14           wherein each of said metal plates is energized to a  
15          potential and the potentials of the metal plates of each pair  
16          have opposite polarities.

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18        34. An improved time of flight mass spectrometer according to  
19          claim 31 wherein the distance between adjacent bipolar deflection  
20          plates varies as a function of position within the  
21          multideflector.

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1       35. An improved time of flight mass spectrometer according to  
2       claim 34 wherein the bipolar deflection plates are curved.

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4       36. An improved time of flight mass spectrometer according to  
5       claim 23 wherein the potentials on the conducting electrodes is  
6       held constant.

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8       37. An improved time of flight mass spectrometer according to  
9       claim 23 wherein the potentials on the conducting electrodes is  
10      varied as a function of time.

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12      38. An improved time of flight mass spectrometer according to  
13      claim 32 wherein the potentials on the conducting electrodes is  
14      held constant.

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16      39. An improved time of flight mass spectrometer according to  
17      claim 32 wherein the potentials on the conducting electrodes is  
18      varied as a function of time.

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20      42. A multideflector according to claim 41 wherein the total  
21      thickness of each bipolar deflector plate is in order of 0.1 mm.

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1       43. A multideflector according to claim 41 wherein the insulator  
2       consists of polyamide layer.

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4       44. A multideflector according to claim 42 wherein the insulator  
5       consists of polyamide layer.

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7       45. A multideflector according to claim 41 wherein the bipolar  
8       deflection plates are curved.

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10      46. A multideflector according to claim 42 wherein the bipolar  
11      deflection plates are curved.

12      A  
13      B

14      47. A multideflector according to claim 43 wherein the bipolar  
15      deflection plates are curved.

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17      48. A multideflector according to claim 44 wherein the bipolar  
18      deflection plates are curved.

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20      49. A multideflector according to claim 41 wherein the bipolar  
21      deflection plates are placed adjacent and parallel to one another  
22      such that each metal plate of every bipolar deflection plate is  
23      facing the metal plate of the adjacent bipolar deflection plate  
      which has the opposite polarity.

1       50. A multideflector according to claim 49 wherein the distance  
2       between adjacent bipolar deflection plates is a constant.

*A<sup>3</sup>  
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Lowell*

1       51. A multideflector according to claim 50 wherein the bipolar  
2       defection plates are curved. --

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